

Response Dated December 18,2007
In Response to the Office Action of October 17, 2007

AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-234. (Previously Cancelled).

Claims 235-271. (Previously cancelled).

272. (Amended Herein) A method for identifying a compound that putatively modulates or elicits taste in a human subject comprising:

(1) screening one or more compounds in a binding assay which identifies compounds that specifically bind to a human T1R1 polypeptide or which modulate (inhibit or enhance) the specific binding of another compound that specifically binds to said human T1R1 polypeptide, wherein said T1R1 polypeptide is selected from the group consisting of:

(a) a human T1R1 polypeptide having the amino acid sequence [encoded by] in SEQ. ID. NO: 17;

(b) a human T1R1 polypeptide encoded by a nucleic acid sequence that specifically hybridizes to the hT1R1 nucleic acid sequence contained in SEQ. ID. NO's: 15 or 16 under stringent hybridization conditions which are 50% formamide, 5X SSC and 1% SDS, incubating at 65 degrees C; with wash in 0.2X SSC and 0.1% SDS at 65 degrees C and which human T1R1 polypeptide is specifically bound by at least one taste modulatory compound that specifically binds to the human T1R1 polypeptide in SEQ. ID NO:17; and

(c) a human T1R1 polypeptide which has possesses at least 90% sequence identity to the amino acid sequence in SEQ. ID. NO:17 and which specifically binds to at least one taste modulatory compound which specifically binds to the native T1R1 polypeptide in SEQ ID NO:17;

(2) identifying compounds that putatively modulate taste based on its specific binding to a human T1R1 polypeptide according to (a), (b), or (c), or its modulation (inhibition or enhancement) of the specific binding of another compound to a T1R1 polypeptide according to (a), (b), or (c).

273. (Previously Amended) The method of claim 272, wherein the human T1R1 polypeptide has the amino acid sequence in SEQ. ID. NO: 17.

274. (Previously Amended) The method of claim 272, wherein said T1R1 polypeptide possesses at least 90% sequence identity to the polypeptide in SEQ. ID. NO: 17.

275. (Previously Amended) The method of claim 272, wherein said T1R1 polypeptide possesses at least 95% sequence identity to the polypeptide in SEQ. ID. NO:17.

276. (Previously Amended) The method of claim 272, wherein the T1R1 polypeptide possesses at least 96% sequence identity to the polypeptide in SEQ. ID. NO:17.

277 (Previously Amended) The method of claim 272, wherein the T1R1 polypeptide possesses at least 97% sequence identity to the polypeptide in SEQ. ID. NO:17.

278. (Previously Amended) The method of claim 272, wherein said T1R1 polypeptide possesses at least 98% sequence identity to the polypeptide in SEQ. ID. NO:17.

279. (Previously Amended) The method of claim 272, wherein said T1R1 polypeptide possesses at least 99% sequence identity to the polypeptide in SEQ. ID. NO:17.

280. (Previously Amended) The method of claim 272, wherein said T1R1 polypeptide is encoded by a nucleic acid sequence that hybridizes to the nucleic acid sequence in SEQ. ID. NO: 15 or 16 under said stringent hybridization conditions.

281. (Previously Presented) The method of claim 272, wherein said T1R1 polypeptide is encoded by a sequence that is contained on an expression vector.

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282. (Previously Presented) The method of claim 272, wherein said T1R1 polypeptide is attached to a solid phase.

283. (Previously Presented) The method of claim 272, wherein said T1R1 polypeptide is in solution.

284. (Previously Presented) The method of claim 272, wherein T1R1 polypeptide is in a lipid bilayer or vesicle.

285. (Previously Amended) The method of claim 272, wherein said assay uses a cell which expresses said T1R1 polypeptide.

286. (Previously Amended) The method of claim 272, wherein said T1R1 polypeptide is comprised on or is attached to a cell membrane.

287. (Previously Presented) The method of claim 285, wherein the cell is a prokaryotic cell.

288. (Previously Presented) The method of claim 285, wherein the cell is a eukaryotic cell.

289. (Previously Presented) The method of claim 285, wherein said cell is a yeast, insect, amphibian or mammalian cell.

290. (Previously Presented) The method of claim 285, wherein the cell is a CHO cell, HEK-293 cell, COS cell or a Xenopus oocyte.

291. (Previously Presented) The method of claims 272, wherein the binding assay detects a change in T1R1 polypeptide conformation upon binding of the compound.

292. (Previously Presented) The method of claim 291, wherein said change in conformation is detected by NMR spectroscopy.

293. (Previously Presented) The method of claim 291, wherein said change is detected by fluorescence spectroscopy.

294. (Previously Presented) The method of claim 285, wherein said cell further expresses a G protein that couples to said T1R1 polypeptide.

295. (Previously Presented) The method of claim 294, wherein said G protein is G_{α15} or G_{α16} or gustducin.

296. (Previously Presented) The method of claim 272, wherein the binding assay includes the use of a label.

297. (Previously Presented) The method of claim 272, wherein said label is an enzyme, radionuclide, chemiluminescent compound or fluorescent compound.

298. (Previously Presented) The method of claim 272, wherein the binding assay detects binding of a labeled ligand to said T1R1 polypeptide.

299. (Previously Presented) The method of claim 272, wherein said assay is a fluorescent polarization or FRET assay.

300. (Previously Presented) The method of claim 272, wherein binding of a compound to T1R1 polypeptide is detected by a competitive binding assay.

301. (Previously Presented) The method of claims 272, wherein the binding of a compound to said T1R1 polypeptide is detected by a non-competitive binding assay.

302. (Previously Presented) The method of claim 272, wherein the binding assay uses an intact or permeabilized cell that expresses said T1R1 polypeptide.

303. (Previously Presented) The method of claim 272, wherein the binding assay detects release of a labeled ligand from said T1R1 polypeptide.

304. (Previously Presented) The method of claim 272, wherein the binding assay detects binding of a compound to T1R1 based on a detectable change in fluorescent absorbance or refractive index.

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305. (Previously Presented) The method of claim 272 which is a high throughput binding assay.

306. (Previously Presented) The method of claim 305 which screens a library of at least 1000 compounds.

307. (Previously Presented) The method of claim 306, wherein said library is a combinatorial chemical library.

308. (Previously Presented) The method of claim 272, which further includes step (3) whereby the effect of said putative taste modulating compound is confirmed in a human taste test.